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10/563,264

09/18/2006

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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/563,264
Filing Date: September 18, 2006
Appellant(s): KLEIN ET AL.

Klaus P. Stoffel
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 8, 2010 appealing from the Office action mailed February 3, 2009.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1 and 4 – 7 are pending and have been rejected.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

US 4,698,897	Frommann et al.	10-1987
US 6,024,808	Kondo et al.	02-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

Claims 1 and 4 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frommann et al. (US 4,698,897) in view of Kondo et al. (US 6,024,808).

With respect to instant claim 1, col. 1 lines 42-48, col. 3 line 56-col. 4 line 62, Fig. 3, and Fig. 4 of Frommann disclose an arrangement for producing hot-rolled steel strip. The arrangement comprises at least one continuous casting machine, at least one shear (2), at least one soaking furnace (4, 6, 8), a descaler (13), possibly a roughing train (12), a finishing train (7) (multi-stand rolling mill or Steckel mill-see col. 3 lines 7-29), a roller table having a cooling zone, and at least one coiling reel (9) for the hot strip. The casting line and the pass line are arranged in parallel or approximately parallel to each other in such a way that the casting direction and the rolling direction are oriented essentially opposite each other and are connected with each other by a reheating

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furnace (4) (see Fig. 3). Frommann also teaches, in col. 2 lines 30-51, that the distance between the casting line and the pass line is designed so that sufficient residence and buffer time for the thin slabs in the reheating furnace is guaranteed. Also, Frommann teaches in col. 3 lines 56-68 that the reheating furnace can hold one or more coiled castings which overlaps with the instant recited range.

Frommann differs from instant claim 1 because it does not specifically teach that the reheating furnace is a rocker-bar hearth furnace or a walking-beam furnace. However, col. 2 line 51 of Frommann teaches that the reheating furnace should be of the rotary variety. It would have been obvious to one of ordinary skill in the art that the rotary furnace of Frommann would perform the same function of reheating the steel as the walking-beam furnace of the instant invention because it is well known in the art, as evidenced by col. 6 lines 26-29 of Kondo, that a rotary furnace and a walking beam furnace are functional equivalents in terms of reheating steel. See MPEP 2144.06.

In regards to instant claim 4, col. 4 lines 46-62 and Fig. 4 of Frommann disclose that the casting line may consist of one or more casting machines or several casting strands.

In regards to instant claim 5, Frommann does not specifically teach that the casting and rolling plane are arranged at the same height. However, Figures 1 and 3 are drawn in such a way that the casting and rolling plane are arranged at the same height.

Regarding instant claim 6, col. 4 lines 33-45 and Fig. 4 of Frommann disclose that a hot inspection station (10) is arranged between the rolling mill and the reheating

furnace. It would be expected that the hot inspection station of Frommann would act like a continuous furnace because the temperature of the steel is maintained while it is at the hot inspection station.

With respect to instant claim 7, col. 4 lines 1-10 and Fig. 3 of Frommann teach that at least one continuous furnace (6) is arranged between the rolling mill (7) and the reheating furnace (4).

(10) Response to Argument

Appellant's arguments filed January 8, 2010 have been fully considered but they are not persuasive.

Appellant's arguments are summarized as follows:

- 1) The primary reference, Frommann, deals with steel strip, whereas the present invention deals with steel slabs. There is an important difference between the handling of strip and slabs. While it is easy to design a product line with sufficient residence and buffer time when having two coiler stations, it is difficult to design a line for slabs.
- 2) The presently claimed invention claims that the distance between the casting line and the pass line is designed in such a way that a sufficient residence and buffering time for the thin slabs in the reheating furnace is guaranteed. Such a construction is not taught by the references.
- 3) The Examiner does not recognize the mistake in Frommann, namely, the steps "coiled, cut, uncoiled" since it is not possible to cut the coil. The correct method is shown in Fig. 4 of Frommann, i.e. continuously cast slab ingot is

cut into a length that will result in a desired coil weight when coiled.

Thereafter, the coil is uncoiled and rolled down. Col. 4 line 63-col. 5 line 11 is also contrary to the Examiner's interpretation because this passage discloses nothing about slabs, but only about coils and the desired coil weight.

Examiner's responses are as follows:

- 1) Frommann also deals with steel slabs as disclosed in the abstract and col. 4 line 63-col. 5 line 11 which teaches that a "thin steel ingot of the *slab ingot type*" is cast, cut, coiled, uncoiled, and rolled down to thin strip material. Therefore, the apparatus of Frommann reads on the instantly claimed apparatus and also deals with steel slabs.
- 2) The Examiner respectfully disagrees with Appellant and cites col. 2 lines 30-51 of Frommann which teach that the distance between the casting line and the pass line is designed so that sufficient residence and buffer time for the thin slabs in the reheating furnace is guaranteed. Frommann teaches that there is a buffer zone between casting and rolling to render casting speed and rolling speed independent from each other. In the alternative, the claimed control of the residence and buffering times of the instant installation is a manner of operating the device and does not differentiate the instant claim from the prior art. See MPEP 2114.
- 3) The Examiner appreciates Appellant's point that the abstract of Frommann contains a typographical error "coiled, cut, uncoiled" which should state "cut, coiled, uncoiled" as depicted in Fig. 4. However, the correct teachings of

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Frommann still read on the instant invention. The Examiner respectfully disagrees with Appellant's assertion that Frommann discloses nothing about slabs. Frommann discloses in the abstract that "continuously cast thin *slab* ingots are coiled, cut, uncoiled and rolled down to thin strip material" (as pointed out by Appellant this statement should read "continuously cast thin *slab* ingots are cut, coiled, uncoiled and rolled down to thin strip material."

Furthermore, col. 4 line 63-col. 5 line 11 of Frommann teach that a "thin steel ingot of the *slab ingot type*" is cast, cut, coiled, uncoiled, and rolled down to thin strip material. In addition, col. 5 lines 28-39 of Frommann also refer to the slab ingot. Therefore, Frommann clearly teaches that the apparatus deals with the handling of slabs.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Caitlin Fogarty/

Caitlin Fogarty, Art Unit 1793

Conferees:

/ Roy King/

Supervisory Patent Examiner, Art Unit 1793

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